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CLAIMS

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1. A semiconductor device comprising:
  - a semiconductor substrate, on which an active region is formed;
  - a plurality of wiring layers which are formed on said semiconductor substrate;
  - a first insulating layer containing carbon, said first insulating layer being formed at least between any adjacent two of said wiring layers; and
  - a second insulating layer comprising silicon, carbon and nitrogen, said second insulating layer being formed on said first insulating layer.
2. A semiconductor device as set forth in claim 1, wherein said second insulating layer further comprises boron.
3. A semiconductor device as set forth in claim 1 or 2, which further comprises an adhesion layer which comprises a high-melting point metal and a nitride thereof, said adhesion layer being formed in the interface between said first insulating layer and said wiring layers.
4. A method of manufacturing a semiconductor device, said method comprising the steps of:
  - forming a wiring layer on a semiconductor substrate, on which an active region is formed;
  - forming a first insulating layer containing carbon on said wiring layer;
  - forming a second insulating layer comprising silicon, carbon and nitrogen on said first insulating layer;
  - selectively etching said second insulating layer until the surface of said first insulating layer is partially exposed;
  - selectively etching said first insulating layer using said selectively-etched second insulating layer as a mask; and
  - forming a new wiring layer on said second insulating layer after selectively etching said first insulating layer.

Sub  
A'1  
B'1

5. A method of manufacturing a semiconductor device as set forth in claim 4, which further comprises a step of adding boron to said second insulating layer.

6. A method of manufacturing a semiconductor device as set forth in claim 4 or 5, wherein said step of selectively etching said second insulating layer is carried out with the plasma of the gas of a compound containing carbon and fluorine.

7. A method of manufacturing a semiconductor device as set forth in claim 4 or 5, wherein said step of selectively etching said second insulating layer is carried out with the plasma of the gas of a compound containing carbon and hydrogen.

8. A method of manufacturing a semiconductor device as set forth in claim 4 or 5, wherein said step of selectively etching said first insulating layer is carried out with the plasma of an oxygen-containing gas.

9. A method of manufacturing a semiconductor device as set forth in claim 4 or 5, wherein said step of selectively etching said first insulating layer is carried out with the plasma of a hydrogen-containing gas.

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